REMARKS/ARGUMENTS

Claims 1-27 are currently pending in this application. Claims 1, 12, 19, and 25 are independent claims. Claims 1-27 were rejected under 35 USC 103(a) as being unpatentable over Castelli et al. (US 6,122,628) in view of Liaguno et al. (US 5,729,741). Applicant kindly requests favorable reconsideration of the application in view of the following discussion.

PIECEMEAL EXAMINATION

The following is a quotation of M.P.E.P. 707.07(g):

Piecemeal examination should be avoided as much as possible. The examiner ordinarily should reject each claim on all valid grounds available, avoiding, however, undue multiplication of references. (See MPEP § 904.03.) Major technical rejections on grounds such as lack of proper disclosure, lack of enablement, serious indefiniteness and res judicata should be applied where appropriate even though there may be a seemingly sufficient rejection on the basis of prior art. Where a major technical rejection is proper, it should be stated with a full development of reasons rather than by a mere conclusion coupled with some stereotyped expression.

In cases where there exists a sound rejection on the basis of prior art which discloses the "heart" of the invention (as distinguished from prior art which merely meets the terms of the claims), secondary rejections on minor technical grounds should ordinarily not be made. Certain technical rejections (e.g. negative limitations, indefiniteness) should not be made where the examiner, recognizing the limitations of the English language, is not aware of an improved mode of definition.

In the current Office Action, the Examiner cited two patent documents for making rejections under 35 USC § 103. The first patent cited, Castelli, was issued on September 19, 2000. The second patent cited, Liaguno, was issued on March 17, 1998. The first Office Action in the present application was mailed on January 16, 2004. When the Examiner made the first prior art search for this application, both Castelli and Liaguno were discoverable and available to be cited.

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Amdt. dated July 17, 2006
Reply to Office Action of May 31, 2006
Atty. Docket No. 03.0074

In reply to the second Office Action the Applicant amended the claims. The current listing of claims is substantially similar to the claims amended after the second Office Action. Castelli and Liaguno were not cited until the **sixth** Office Action. It is respectfully submitted that it appears that the Examiner is engaging in piecemeal examination. None of the references cited, since the first Office Action, has disclosed the "heart" of the invention. Instead, all of the references cited have merely been cited to try to meet claim terms. Thus there was no justification for withholding any potentially relevant references.

Consider, the time line of references cited:

Office Action	References Cited
No. 1	Yamanaka, Schaefer
No. 2	Yamanaka, Sotomayor, Durst
No. 3	Kirsch, Ambroziak, Billmers
No. 4	Judd, Kirsch
No. 5	Judd, Kirsch
No. 6	Castelli, Liaguno

Consider also the issue dates of each patent cited:

Reference Cited	Issue Date
Yamanaka – 5,983,247	Nov. 9, 1999
Schaefer – 5,826,268	Oct. 20, 1998
Sotomayor – 5,963,205	Oct. 5, 1999
Durst – 6,542,933	Apr. 1 2003
Kirsch – 5,920,854	July 6, 1999
Ambroziak – 6,055,526	Apr. 25, 2000
Billmers – 6,226,630	May 1, 2001
Judd – 6,360,215	Mar. 19, 2002
Castelli – 6,122,628	Sep. 19, 2000
Liaguno – 5,729,741	Mar. 17, 2000

The first Office Action in this application was mailed on January 16, 2004. Notice that all of these patents issued before the first Office Action and were therefore available during the first and second Office Actions. On a side note, Durst was erroneously cited as Durst was

filed on April 5, 2000, and the present application was filed on December 8, 1999, with a priority date of December 8, 1998.

From the tables shown above, on five of the six Office Actions there have been different pairs of references cited. The pattern of prosecution has been that (1) the Examiner cites a pair of references, (2) the Applicant explains how those references do not relate, (3) the Examiner cites a new pair of references. This pattern has been repeated several times during the prosecution of this examination. Since all of these references were available before the first Office Action, it appears that the Examiner is engaging in piecemeal examination of the present application and thus seriously delaying the patent rights of the Applicant.

GENERAL DISCUSSION OF THE PRESENT INVENTION

The present invention is a method of providing index information for secure audiovisual objects to a search engine. Search engine systems index documents by searching for keywords that are contained within the documents. Typically, the searches are not performed on the documents themselves. Instead, words are extracted from the document and are then indexed in separate data structures optimized for searching.

However, secure documents, such as documents that are protected by digital rights management (DRM) software, present a special problem for search engines. Traditionally, search engines rely upon having full access to the contents of the document to prepare the index information for the document. For example, search engines that index HyperText Markup Language (HTML) documents on the Internet typically open each HTML document via its Uniform Resource Locator (URL), then download, parse, and index the entire document.

Secure software, however, does not permit this kind of unrestricted access. Access is restricted to those applications that are both authorized and trusted by the secure software. For security concerns, all other applications are prevented from accessing the protected document.

One way to solve this problem is to retrofit all pre-existing search engines so that they are "rights enabled." This solution permits search engines to communicate directly with secure software to obtain the document source. However, this approach makes a number of unrealistic assumptions, including: (i) that it is possible to retrofit legacy search

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engines such that they would comply with the secure software's security requirements; (ii) that all secure system providers would be willing or able to make the necessary changes in a timely manner; and (iii) that it is possible to establish the necessary trust relationships between every secure provider, copyright holder, and search engine provider. This approach has attendant flaws and there is a need for a better solution.

Another problem with preparing index information for search engines is that each search engine has different indexing algorithms for organizing and storing information. Search engines often analyze the header of the electronic document when selecting the index information for the electronic document. The header includes meta-information regarding the content of the document. However, not all of the search engines retrieve the same keywords from the electronic document when selecting the index information. For example, some search engines remove duplicative words from the metatag information, while others do not. Furthermore, for example, some search engines recognize phrases, while others do not. Accordingly; it is difficult to customize index information that is ideally suited for use with more than one search engine.

The present invention meets a need for a system for providing index information to search engines when DRM software is involved. The present invention provides information to the search engines that is almost as usable as the original. The present invention does not require the modification of any legacy search engines. Furthermore, it is difficult to reconstruct the original document source (or any reasonable facsimile thereof) from the provided index information.

The presence of secure software or DRM software that defaults to blocking search engines is important to understanding the claim language of the present invention. For example, claim 1 includes a limitation "converting a least a portion of a secure audiovisual object into index information...wherein the secure audiovisual object is secure in that search engine systems do not have full access to the secure audiovisual object." Without secure software causing a problem, there would be no need for the present invention.

The problem, then, that the present invention solves is **visibility**. Owners of secure documents or documents protected by DRM software want their data to be visible, but without compromising their data by giving search engines full access to audiovisual objects.

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CASTELLI US 6,122,628

Castelli is a spatial indexer and an index compressor for multidimensional indexing. Multidimensional indexing is fundamental to spatial databases, which are widely applicable to Geographic Information Systems (GIS), Online Analytical Processing (OLAP) for decision support using a large data warehouse, and multimedia databases where high-dimensional feature vectors are extracted from image and video data. Spatial databases are key to decision support.

Decision support allows a business to deduce useful information, usually referred to as a data warehouse, from an operational database. While the operational database maintains state information, the data warehouse typically maintains historical information. Users of data warehouses are generally more interested in identifying trends rather than looking at individual records in isolation. Decision support queries are thus more computationally intensive and make heavy use of aggregation. This can result in long completion delays and unacceptable productivity constraints.

During the execution of a database query, the database search program accesses part of the stored data and part of the indexing structure; the amount of data accessed depends on the type of query and on the data provided by the user, as well as on the efficiency of the indexing algorithm. Large databases are such that the data and at least part of the indexing structure reside on the larger, slower and cheaper part of the memory hierarchy of the computer system, usually consisting of one or more hard disks. During the search process, part of the data and of the indexing structure are loaded in the faster parts of the memory hierarchy, such as the main memory and the one or more levels of cache memory. The faster parts of the memory hierarchy are generally more expensive and thus comprise a smaller percentage of the storage capacity of the memory hierarchy. A program that uses instructions and data that can be completely loaded into the one or more levels of cache memory is faster and more efficient than a process that in addition uses instructions and data that reside in the main memory, which in turn is faster than a program that also uses instruction and data that reside on the hard disks. Technological limitations are such that the cost of cache and main memory makes it too expensive to build computer systems with enough main memory or cache to completely contain large databases.

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Castelli tries to solve a need for an improved indexing technique that generates indexes of such size that most or all of the index can reside in main memory at any time; and that limits the amount of data to be transferred from the disk to the main memory during the search process.

The inefficiency of conventional indexing techniques in high dimensional spaces is a consequence of a well-known phenomenon called the "curse of dimensionality." The relevant consequence of the curse of dimensionality is that clustering the index space into hypercubes is an inefficient method for feature spaces with a higher number of dimensions. Castelli also tries to solve the need for an improved indexing technique for high-dimensionality data, even in the presence of variables which are not highly correlated.

LIAGUNO US 5,729,741

Liaguno is a method of processing information in different types of media. In the legal profession, access to information stored on multiple and diverse types of media is crucial to research, the generation and storage of documents, and the gathering and evaluation of evidence. Also, success at trial often depends upon the ability of the presenting attorney to quickly locate and reproduce a critical piece of evidence, from what is typically a diverse collection of very large quantities of material, including, but not limited to, hard copy (paper documents, such as contracts, receipts, letters, manuscripts, etc.), photographs, audio and video storage media, and computer-accessible storage media.

To facilitate this information accessing task, one or more electronic information storage and retrieval devices, such as document scanners, opto-electronic image digitizers, large screen displays and the like, that allow substantially any piece of information, regardless of its original physical characteristics, to be stored and retrieved in an efficient and organized manner, have become common courtroom equipment. Because the format of the information stored in one type of database for playback by an associated reproduction device is not necessarily compatible with the format used by another data base and its associated playback device, accessing different pieces of information for presentation to a viewer requires the use of a number of separate, stand alone equipments, each of which has its own control software.

For example, the format of a text database file, such as that of a contract or will, derived from an opto-electronic scanner, is not customarily compatible with the format of a

still image or dynamic image database file, such as one derived from a digitized photograph, computer graphics image animation, or digitized imagery data frame from a video camera. As a consequence, the process of retrieving diversely formatted electronically stored information is a cumbersome and time-consuming one, requiring the use one or more separate software packages for each media and information type in the course of operating the appropriate storage and retrieval device, to enable the information to be accessed and reproduced.

Liaguno tries to solve this problem by providing a single or unitary system for integrating diverse pieces of information sourcing, storage and playback equipment and in a manner that allows any piece of information, irrespective of its original format and medium in which it is supplied to the user, to be stored in a manner that allows it to be expeditiously located in a storage database, retrieved and played back on an image reproduction device.

THE PRESENT INVENTION, CASTELLI, AND LIAGUNO

By considering the problems that each invention solves, it is easy to understand how there is no suggestion or motivation in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings according to MPEP § 2143.

The pair of currently cited references is even less related to the present invention then the pair of references previously cited in the previous Office Action. Regarding the previously cited references, the Examiner has removed these references as a valid §103 rejection and thus accepted that there was no suggestion or motivation to combine those references and that the reference combination did not teach or suggest all of the claim limitations.

The reference combination of Castelli and Liaguno fails to establish a *prima facie* case of obviousness for at least two of the three basic criteria to establish a *prima facie* case of obviousness. The first criterion is that there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. MPEP § 2143.

As demonstrated above, in the discussion of Castelli and Liaguno, there is no suggestion in the references themselves for dealing with the problems associated with search engines indexing secure data objects. Consider the following terms which are closely related to the present invention—most of which appear in the claim language:

secure; graphical object; audio object; search engine, index information, index database; obfuscate; intelligibility; digital rights; rights management; and rights.

None of these terms is found in either Castelli or Liaguno. With neither of the cited references disclosing any of the terms central to the claimed invention, it is easy to understand how there is no suggestion found in Castelli or Liaguno for teaching the present invention.

Additionally, there is no suggestion outside of the references for suggesting that Castelli and Liaguno be combined. *In re Wood* teaches a two-part test to establish a suggestion to combine. Such a suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching IF: (1) a person of ordinary skill in the art is presumed to know the teaching, AND (2) the use of the teaching is used to solve the same [or] similar problem which it addresses. *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1919).

First, the Examiner has not identified what teachings a person of ordinary skill in the art is presumed to know. Second, it is evident that the cited references do not teach the same or similar problem that the present invention addresses. Consider the table below that illustrates how expressly different the problems are in each invention.

INVENTION	PROBLEM TO SOLVE
Present Invention	Visibility – Secure documents owners want their content discoverable online, but they install digital rights management software that restricts a spider's access.
Castelli	The "Curse of Dimensionality" – Conventional indexing techniques in spaces with a higher number of dimensions are inefficient, making data mining to identify trends time consuming.
Liaguno	Integration – The process of information sourcing, storage, retrieval, and playback of diversely formatted electronically stored information is cumbersome and time-consuming, making evidence presentation at court trials difficult.

Visibility, Integration, and the curse of dimensionality, are the three problems addressed among the inventions. The present invention solves problems related to visibility. Castelli solves problems related to the curse of dimensionality. Liaguno solves problems related to integration. None of these problems are the same or similar. A person of ordinary skill in the art would not think to combine Castelli and Liaguno to solve the problems addressed in the present invention. Thus, neither of the cited references—alone or combined—teaches a solution to solve the same or similar problem as the present invention. Therefore there is no basis to combine Castelli and Liaguno.

35 USC § 103

Claims 1-27 were rejected under 35 USC 103(a) as being unpatentable over Castelli et al. (US 6,122,628) in view of Liaguno et al. (US 5,729,741).

Claim12

The Office Action stated on page 3 that Castelli teaches "a method of providing index information (e.g., indexing) for secure graphical or audio objects (e.g., audio, video, and image). The Office Action cites the Abstract and the discussion beginning at column 6, line 65. From the general discussion above, there is a big difference between "providing index information" and "indexing". There is a similar difference between **manufacturing** a car and **selling** a car. Thus, Castelli does not teach **providing** index information. The Office Action also states that Castelli teaches "secure objects". This is erroneous as the term "secure" is absent from Castelli.

The Office Action states that Castelli teaches "reading index information that is associated with a secure graphical or audio object, wherein the index information is structured for use in an index database of a search engine system, and wherein search engine systems do not have full access to the secure graphical or audio object, and wherein search engine systems do not have access to said index information associated with said secure graphical or audio object" beginning at column 6, line 21. As discussed above, Castelli does not disclose secure software nor DRM software, so Castelli does no disclose secure objects. Castelli silent on having index information structured for used in an index database of a search engine system. Castelli does not mention or relate to the activities of search engines. By not disclosing search engines, Castelli is also silent on

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search engines not having access to index information associated with secure graphical or audio objects. In the cited section, Castelli discloses spatial indexing of multimedia data, but does not disclose secure multimedia data, search engines, and search engines not having access to secure multimedia data.

The Office Action states that Castelli teaches "transmitting the index information to the search engine system, wherein the index information is for use in the index database of the search engine system" beginning at column 13, line 8. It is impossible for Castelli to teach transmitting index information to a search engine system and Castelli does not disclose search engines. Castelli instead teaches in this section about clustering data in a database to offer more efficient dimensional searching.

The Office Action states that Liaguno teaches "obfuscating at least a portion of the index information so the intelligibility of the index information is reduced" beginning at column 13, line 52. The discussion beginning at column 13, line 52, contains no reference to obfuscating index information or reducing intelligibility of index information. In fact, in the entire Liaguno disclosure there is no mention of "obfuscate" or words synonymous with obfuscate. Instead, this section focuses on media being subjected to a "hashing" operation. Liaguno explains that this hashing operation means that data is processed through a numerical compression algorithm. This compression facilitates rapid retrieval of a stored media image.

To establish a *prima facie* case of obviousness, the final criterion that **must** be met is that the prior art reference combination must teach or suggest **all** the claim limitations. MPEP § 2143. As discussed above, the prior art combination teaches none of the claim limitations of the present invention.

The Office Action stated "it would have been obviousness to one of ordinary skill in the art at the time of the invention was made to include the feature from Liaguno in the system of Castelli because it would have provided for **facilitating rapid retrieval of any type of data..**". In this explanation the Examiner demonstrates a failure to understand the claimed invention. Nowhere in the claims or in the specification does the present invention disclose a method for facilitating rapid retrieval of any type of data. In contrast, the present invention discloses a method for **accommodating digital rights management software and secure software while still making selected contents of data available to search**

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engines. Thus, making secure data visible on the web, still protecting the data. **Rapid retrieval** is not the same issue as **visibility.** By knowing that the current references were combined to teach a rapid data retrieval system, instead of a method related to visibility, it is very understandable why the reference combination teaches **none** of the claim limitations of the present invention.

Because the reference combination (1) fails to teach or suggest all the claim limitations, and (2) lacks any suggestion or motivation to combine the references, the presently claimed invention is patentable over Judd and Kirsch. Claim 12 is therefore believed to be allowable.

Claims 13-18

Claims 13-18 depend on claim 12, and incorporate all of the limitations of claim 12. Because independent claim 12 is patentable over the reference combination, claims 13-18 are likewise patentable over the reference combination. Therefore claims 13-18 are believed to be allowable.

Claim 1

The Office Action stated Castelli additionally teaches "converting at least a portion of a secure audiovisual object into index information" beginning at column 6, line 65. This cited section does not teach converting **secure** audiovisual objects into index information. Instead, this section teaches that in spatial indexing, multimedia data can be stored separately from meta-data used for indexing. Additional limitations of claim 1 are substantially similar to the limitations of claim 12. The above reasons for claim 12 being allowable over the reference combination are thus applicable for claim 1. Claim 1, therefore, is believed to be allowable over the reference combination.

Claims 2-11

Claims 2-11 depend on claim 1, and incorporate all of the limitations of claim 1. Because independent claim 1 is patentable over the reference combination, claims 2-11 are likewise patentable over the reference combination. Therefore claims 2-11 are believed to be allowable.

Claim 25

Claim 25 is substantially similar to claim 1 in its first and third limitations. The above reasons for claim 1 being allowable over the reference combination are thus applicable for claim 25. Claim 25 also claims "dynamically generating an electronic document based at least in part upon the contents of the index information." The Office Action stated that Castelli teaches "dynamically generating an electronic document based at least in part upon the contents of the index information" beginning at column 7, line 24. In this section, Castelli discloses automatic indexing of images, and creating a set of vectors to represent a database. Castelli is silent on dynamically generating an electronic document based on contents of index information. Additional limitations of claim 25 are substantially similar to the limitations of claim 12. The above reasons for claim 12 being allowable over the reference combination are thus applicable for claim 25. For this and the above listed reasons, claim 25 is patentable over the reference combination and believed to be allowable.

Claims 26 & 27

Claims 26 & 27 depend on claim 25, and incorporate all of the limitations of claim 25. Because independent claim 25 is patentable over the reference combination, claims 26 & 27 are likewise patentable over the reference combination. Therefore claims 26 & 27 are believed to be allowable.

Claim 19

Claim 19 is a system claim that is substantially similar to the process of claim 25. The above reasons for claim 25 being allowable over the reference combination are thus applicable for claim 19. Claim 19, therefore, is believed to be allowable over the reference combination.

Claims 20-24

Claims 20-24 depend on claim 19, and incorporate all of the limitations of claim 19. Because independent claim 19 is patentable over the reference combination, claims 20-24 are likewise patentable over the reference combination. Therefore claims 20-24 are believed to be allowable.

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Prior Art Made of Record

The Applicant has reviewed the prior art made of record, not relied upon, but considered pertinent to Applicant's disclosure.
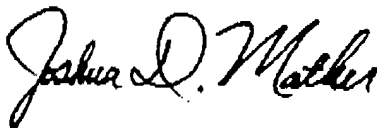
- Adams et al., USPN 5,483,651: Adams, like Liaguno relates to rapid access of data and data organization. Adams does not relate to visibility.
- Wang Baldonado, USPN 6,704,722: Wang Baldonado was incorrectly cited as the priority date for Wang Baldonado is November 17, 1999, and the priority date for the present application is December 8, 1998. Notwithstanding the incorrect citation, Wang Baldonado does not relate to visibility of secure data, but instead relates to improving crawl searches.

Summary

Applicant is a pioneer in its market. This application is one of a family of applications filed by the Applicant in 1999, of which two have already issued, and another has been allowed. The reason that no prior art anticipates or makes obvious the present invention is because the Applicant invented it.

For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully Submitted,

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